WHAT IS CLAIMED IS:

1. A method of measuring a distribution of emissivity on a surface of an object body, on the basis of a light emitted from said surface of the object body, said method comprising:

a temperature-distribution measuring step of calculating a temperature of said object body at each picture element of its image on the basis of a radiant intensity ratio at each pair of corresponding picture elements of a first image and a second image which are obtained with respective two radiations having respective first and second wavelengths selected from the light emitted from the surface of the object body, for thereby measuring a distribution of the temperature on the surface of the object body; and

an emissivity calculating step of calculating an emissivity value at each picture element of said image of the object body, on the basis of the distribution of the temperature measured in said temperature-distribution measuring step, and according to a predetermined relationship between said temperature and said emissivity value.

2. A method according to claim 1, wherein said temperature-distribution measuring step comprises:

a first-wavelength selecting step of selecting said radiation having said first wavelength from the light emitted from the surface of said object body, by using a first filter which permits transmission therethrough a radiation having said first

wavelength which is selected according to a radiant-intensity curve corresponding to a wavelength of a black body at a lower limit of a range of the temperature to be measured, and which is within a high radiant intensity range in which the radiant intensity is higher than a radiant intensity at a normal room temperature;

a second-wavelength selecting step of selecting said radiation having said second wavelength from the light emitted from the surface of said object body, by using a second filter which permits transmission therethrough a radiation having said second wavelength which is selected within said high radiant intensity range, such that said second wavelength is different from said first wavelength by a predetermined difference which is not larger than 1/12 of said first wavelength and which is not smaller than a sum of a half width of said first wavelength and a half width of said second wavelength; and

a temperature calculating step of calculating the temperature of the object body at each picture element of its image on the basis of said radiant intensity ratio which is a ratio of the radiant intensity at said first wavelength selected by said first filter to the radiant intensity at said second wavelength selected by said second filter, and according to a predetermined relationship between said radiant intensity ratio and said temperature.

3. A method according to claim 1, wherein said first filter permits transmission therethrough a radiation

having a half width which is not larger than 1/20 of said first wavelength, while said second filter permits transmission therethrough a radiation having a half width which is not larger than 1/20 of said second wavelength.

4. A method according to claim 1, wherein said first and second filters have transmittance values whose difference is not higher than 30%

5. A method according to claim 1, wherein said emissivity calculating step comprises; calculating the radiant intensity at said each picture element of said image of said object body on the basis of the temperature at said each picture element calculated in said temperature-distribution measuring step, and according to a predetermined relationship between said radiant intensity and said temperature of the object body; calculating a radiant intensity of a black body at a selected wavelength on the basis of the calculated temperature of the object body, and according to a predetermined relationship between the radiant intensity of said black body and the temperature of said object body; and calculating said emissivity value as a ratio of the calculated radiant intensity of the object body to the calculated radiant intensity of the black body.

6. An apparatus for measuring a distribution of emissivity on a surface of an object body, on the basis of a light emitted from said surface of the object body, said

apparatus comprising:

a temperature-distribution measuring device operable to calculate a temperature of said object body at each picture element of its image on the basis of a radiant intensity ratio at each pair of corresponding picture elements of a first image and a second image which are obtained with respective two radiations having respective first and second wavelengths selected from the light emitted from the surface of the object body, for thereby measuring a distribution of the temperature on the surface of the object body; and

an emissivity calculating device operable to calculate an emissivity value at each picture element of said image of the object body, on the basis of the distribution of the temperature measured ins aid temperature-distribution measuring step, and according to a predetermined relationship between said temperature and said emissivity value.

7. An apparatus according to claim 6, wherein said temperature-distribution measuring device comprises:

a first-wavelength selecting device including a first filter operable to select said radiation having said first wavelength from the light emitted from the surface of said object body, said first filter permitting transmission therethrough a radiation having said first wavelength which is selected according to a radiant-intensity curve corresponding to a wavelength of a black body at a lower limit of a range of the temperature to be

measured, and which is within a high radiant intensity range in which the radiant intensity is higher than a radiant intensity at a normal room temperature;

a second-wavelength selecting device including a second filter operable to select said radiation having said second wavelength from the light emitted from the surface of said object body, said second filter permitting transmission therethrough a radiation having said second wavelength which is selected within said high radiant intensity range, such that said second wavelength is different from said first wavelength by a predetermined difference which is not larger than 1/12 of said first wavelength and which is not smaller than a sum of a half width of said first wavelength and a half width of said second wavelength; and

a temperature calculating device operable to calculate the temperature of the object body at each picture element of its image on the basis of said radiant intensity ratio which is a ratio of the radiant intensity at said first wavelength selected by said first filter, to the radiant intensity at said second wavelength selected by said second filter, and according to a predetermined relationship between said radiant intensity ratio and said temperature.

8. An apparatus according to claim 6, wherein said first filter permits transmission therethrough a radiation having a half width which is not larger than 1/20 of said first wavelength, while said second filter permits

transmission therethrough a radiation having a half width which is not larger than 1/20 of said first wavelength.

9. An apparatus according to claim 6, wherein said first and second filters have transmittance values whose difference is not higher than 30%.

10. An apparatus according to claim 6, wherein said emissivity calculating device comprises; means for calculating the radiant intensity at said each picture element of said image of said object body on the basis of the temperature at said each picture element calculated by said temperature-distribution measuring device, and according to a predetermined relationship between said radiant intensity and said temperature of the object body; means for calculating a radiant intensity of a black body at a selected wavelength on the basis of the calculated temperature of the object body, and according to a predetermined relationship between the radiant intensity of said black body and the temperature of said object body; and means for calculating said emissivity value as a ratio of the calculated radiant intensity of the object body to the calculated radiant intensity of the black body.

11. An apparatus according to claim 7, further comprising:

a first half mirror for splitting said light emitted from the surface of said object body into two components traveling along

respective first and second optical paths which are provided with said first and second filters, respectively;

a second half mirror disposed so as to receive the radiations of said first and second wavelengths from said first and second filters; and

and an image detector including a multiplicity of photosensitive elements operable in response to the radiations of said first and second wavelengths, to form two images of said object body on the basis of said radiations of said first and second wavelengths, respectively, such that said two images are spaced apart from each other.

12. An apparatus according to claim 7, further comprising:

a pair of mirrors each movable between a first position in which the light emitted from the surface of said object body travels along a first path provided with said first filter, and a second position in which a corresponding one of said pair of mirrors reflects said light such that the light travels along a second optical path provided with said second filter; and

an image detector including a multiplicity of photosensitive elements operable in response to the radiations of said first and second wavelengths, to form two images of said object body on the basis of said radiations of said first and second wavelengths, respectively, such that said two images are spaced apart from each other.

13. An apparatus according to claim 7, further comprising:

a rotary disc carrying said first and second filters fixed thereto and rotatable about an axis parallel to an optical path which extends from said object body, said first and second filters being disposed on said rotary disc such that said first and second filters are selectively aligned with said optical path, by rotation of said rotary disc;

an electric motor operable to rotate said rotary disc; and

an image detector including a plurality of photosensitive elements operable in response to the radiations of said first and second wavelengths, to form two images of said object body on the basis of said radiations of said first and second wavelengths, respectively, such that said two images are spaced apart from each other.

14. An apparatus according to claim 6, further comprising:

a half mirror for splitting said light emitted from the surface of said object body into two components traveling along respective first and second optical paths which are provided with said first and second filters, respectively; and

a pair of image detectors disposed to receive the radiations of said first and second wavelengths, respectively, each of said pair of image detectors including a multiplicity of photosensitive elements operable in response to a corresponding one of the radiations of said first and second wavelengths, to an image of

said object body on the basis of said corresponding radiation.